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attract contaminant particles for further reducing the risk of contamination of the mask. Figure 9 shows a pin and a permanent magnet 56 of a gripper, which is not further shown, for attracting particles released during mechanical contact made. Such a provision of a magnet (permanent magnet or electromagnet) is not limited to the type of gripper disclosed here, but may be provided with any type of gripper to avoid contamination of the mask.

[0067] Figure 10 depicts another embodiment of the invention for handling the mask. In this embodiment the mask is mounted in a frame 60 that is provided with recesses 11a, 11b for handling. The mask may be mounted by gravity in the frame or by some appropriate clamp (not shown). Pads of a magnetic or magnetizable material may be provided at selected parts on the mask for contact with some type of gripper to mount the mask into the frame or to handle it otherwise. Particles released from the metal pad can be attracted by a magnetic field as described above to prevent particle contamination of the mask.

[0068] The mask gripper disclosed as a part of the lithographic projection apparatus of figure 1 may also be a part of other tools, such as a multilayer deposition apparatus, a mask writing apparatus, a mask cleaning apparatus, or a mask inspection apparatus, or part of a reticle storage box. Figure 11 schematically depicts part of a reticle storage incorporating top and bottom grippers according to the invention. The bottom gripper is constituted by bottom plate 81 supporting three pins 82 having rounded tops for cooperation with a bottom V-groove in brackets 10 of mask MA. The top gripper is constituted by cover 83 of the box that supports three protrusions 84 having a spring and ball for cooperation with top V-grooves in brackets 10 of mask MA. A spring may also be provided in protrusion 82 to suppress acceleration forces. Bottom plate 81 and cover 83 may be made of polished aluminum, a low outgassing material. Inside the box an atmosphere of a protective (inert) gas is maintained.

[0069] While we have described above specific embodiments of the invention, it will be appreciated that the invention may be practiced otherwise than as described. The description is not intended to limit the invention. For example, the protrusions may extend from the mask while the grooves are provided in the gripper.